

REMARKS

There remains pending in this application Claims 1-7 and 12-20, of which Claims 1, 2, 4, 5, 12, 16, and 17 are independent. No claims have been cancelled or added.

Claims 1-7 and 12-18 are rejected under 35 U.S.C. § 102(e), as being anticipated by Isozaki (U.S. Patent No. 6,141,110). Claims 19 and 20 are rejected under 35 U.S.C. § 103(a), as being unpatentable over Isozaki in view of Cronch, et al. (U.S. Patent No. 4,706,008). The rejections are respectfully traversed.

Isozaki illustrates an image forming apparatus and method using a stepping motor for feeding a recording paper, the stepping motor being driven based on a single line feed control pattern. As discussed in column 2 of Isozaki, that patent is directed towards resolving a problem in the control of the conveying stepping motor wherein the recording density is not constant when recording operation is started because the phase excitation is different when starting recording.

To address the above described problem, in Isozaki, conveyance is performed to provide a predetermined margin amount and is temporarily stopped, and an excitation phase data is referred to at a position where the conveyance is temporarily stopped and it is determined whether or not it is a desired phase. If it is not the desired phase, the stepping motor is driven until the desired phase appears, and a line feed is performed from the desired phase to start recording. (See, column 5, lines 41-62 and column 6, lines 7-22). Recording is controlled to start from the AB phase. If the excitation phase at the temporarily stopped position is, for example, BC phase, three pulses are

applied and if it is CD phase, two pulses are applied. According to this control, the recording result (i.e., the recording image density) will remain constant.

Applicant respectfully submits that each of the pending independent claims of the above application is distinguishable of Isozaki.

Independent Claim 1 recites both control means and storage means. The storage means is for storing and holding information regarding a final exciting phase of the stepping motor upon entering a software power-off state in which consumption of electrical power of the recording apparatus is restricted. Thus, as recited in Claim 1, the storage means is for storing and holding information upon the apparatus entering a sleep mode. In contrast, Isozaki features a RAM which operates as a memory for storing the excitation phase, but does not operate as a memory for storing information upon entering a software power-off state. Indeed, Isozaki is silent as to any sleep mode or to a transition from the sleep mode. The pause referred to in step S30 of Isozaki does not correspond to the power-off sleep state as recited in Claim 1 and makes no reference to the restriction of power also as called for in Claim 1. Accordingly, Applicant submits that Claim 1 is patentable over Isozaki.

Claims 2, 4, 5, 12, 16, and 17 also recite storage means which store and hold information regarding a final exciting phase when the apparatus enters the software power off state and are thus distinguishable over Isozaki for reasons discussed above for Claim 1.

Claim 2 is also directed to a recording apparatus which includes storage means which holds information regarding a termination status indicating the presence/absence of an abnormality at the time of entering a software power-off state, and

controlling based on the information regarding the termination status being abnormal. Yet, Isozaki also does not disclose a control based on information about abnormal conditions and thus Claim 2 is also distinguishable for this additional ground.

Each of independent Claims 4 and 5 further include a sensor which either detects whether the driven member moves by a predetermined number of pulses when the predetermined number of pulses is applied to the stepping motor at the standby position or detects a rotation amount or a corresponding value of the stepping motor during the software power-off state. Isozaki discloses a sensor used as a counter showing the excitation phase. However, it fails to teach or suggest that a predetermined driving signal is applied so as to check that driving is properly performed by the sensor. Thus, Claims 4 and 5 are patentable over the applied art for this additional reason.

The remaining claims in the above application not heretofore discussed are dependent claims which depend either directly or indirectly from one of the above-discussed independent claims. Accordingly, each of those claims is patentable over the art of record for reasons noted above with respect to those claims. In addition, each recites features of the invention still further distinguishing it from the applied art. Favorable and independent consideration thereof is respectfully sought.

Applicant respectfully requests entry of this amendment after final as it is being presented in an earnest effort to advance prosecution and place the application in condition for allowance. Applicant submits that the most expeditious means of advancing prosecution is for entry of the above amendments and further examination herein. Such action is respectfully sought.

Applicant respectfully submits that all outstanding matters in this application have been addressed and that this application is in condition for allowance. Favorable reconsideration and early passage to issue of the above application are respectfully sought.

Applicant's undersigned attorney may be reached in our Washington, DC office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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